

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year)	24.01.2017
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Applicant's or agent's file reference 201608499	FOR FURTHER ACTION See paragraph 2 below
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International application No. PCT/JP2016/084514	International filing date (day/month/year) 21.11.2016	Priority date (day/month/year) 10.12.2015
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International Patent Classification (IPC) or both national classification and IPC
G02B27/01 (2006.01) i, B60K35/00 (2006.01) i, G02B26/10 (2006.01) i

Applicant
RICOH COMPANY, LTD.

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/JP	Date of completion of this opinion	Authorized officer
Facsimile No.		Telephone No.

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Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - the international application in the language in which it was filed
 - a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. forming part of the international application as filed:
 - in the form of an Annex C/ST.25 text file.
 - on paper or in the form of an image file.
 - b. furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. furnished subsequent to the international filing date for the purposes of international search only:
 - in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement							
1. Statement	Novelty (N)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">2-4, 6-7</td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td style="padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">1, 5</td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> </table>	Claims	2-4, 6-7	YES	Claims	1, 5	NO
Claims	2-4, 6-7	YES						
Claims	1, 5	NO						
	Inventive step (IS)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">2-4</td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td style="padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">1, 5-7</td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> </table>	Claims	2-4	YES	Claims	1, 5-7	NO
Claims	2-4	YES						
Claims	1, 5-7	NO						
	Industrial applicability (IA)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">1-7</td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td style="padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;"></td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> </table>	Claims	1-7	YES	Claims		NO
Claims	1-7	YES						
Claims		NO						

2. Citations and explanations:

Document 1: JP 2014-095796 A (RICOH CO., LTD.) 22 May 2014, paragraphs [0007]-[0033], fig. 1, 2 (Family: none)

Document 2: JP 2015-148654 A (RICOH CO., LTD.) 20 August 2015, paragraphs [0007]-[0043], [0157]-[0163], fig. 1, 10 (Family: none)

The invention as in claims 1 and 5 is disclosed in document 1 cited in the ISR and thus lacks novelty and does not involve an inventive step.

Regarding the invention as in claim 1, the "glass pane" composing the "light-transmitting window" of the invention disclosed in document 1 corresponds to the flat plate of the invention as in claim 1. Further, given, for example, the recitation of paragraph [0008] of document 1, the Z-axis direction perpendicular to the horizontal plane (XY plane) can be said to be the sub-scanning direction. Therefore, in the invention disclosed in document 1, the flat plate is inclined in relation to an image formation unit ("screen S") within a cross section in the sub-scanning direction.

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Regarding the invention as in claim 5, given the recitations of document 1, in particular, fig. 1, the flat plate of the invention disclosed in document 1 can be said to be angled in the sub-scanning direction in relation to light incident from a light deflection part.

The invention as in claims 6-7 does not involve an inventive step in the light of document 1 and document 2 cited in the ISR.

Regarding the invention as in claim 6, given, for example, the recitation of paragraph [0106] of document 1, document 1 suggests applying the optical scanning device disclosed in document 1 to a head-up display. Meanwhile, document 2 discloses a feature in which when the configuration of an optical scanning device optical system for a projector device is applied to a head-up display, the screen of the projector device is replaced with an image formation unit for generating an intermediate image. It would be easy for a person skilled in the art to apply the feature disclosed in document 2 to the invention disclosed in document 1 and arrive at an image display device for displaying an intermediate image generated by an image formation unit as a virtual image.

Regarding the invention as in claim 7, see, for example, paragraph [0106] of document 1.

The invention as in claims 2-4 is not disclosed in any of the documents cited in the ISR and would not be obvious to a person skilled in the art. None of the documents disclose the feature of the invention as in claims 2-4 in which in a cross section in the sub-scanning direction, a perpendicular to the flat plate is

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

inclined in relation to the imaginary line, from among two imaginary lines diagonally connecting the ends of the flat plate and the ends of the image formation unit, that forms a smaller angle with the perpendicular to the flat plate in a direction in which the angle formed between the flat plate and the image formation unit is increased.